



Metric Guidance for Work Elements

This report lists work elements by ID, grouped first by those requiring metrics, then by those not requiring metrics.

Expired work elements are identified by an "X" to the left of the work element ID number.

This is the list of 217 work element metrics for work elements active in Fiscal Year 2007

Contracts that start in this fiscal year must use work elements from this list.

ID	Work Element Name	Category	Work Element Definition	Metric	Metric Guidance	Metric Type	Metric Precision
5	Land Purchase	BPA Internal Operations	This is a BPA Internal-use only work element. BPA uses this work element to directly wire money to escrow associated with real estate transactions. This work element only covers the purchase price or option of the land or easement (it may include escrow, title, and/or closing costs). Any work performed by BPA's Transmission Business Line (TBL) in support of the real estate transactions shall be covered by WE# 6, TBL Work (also a BPA Internal-use only work element).	Type of acquisition [Fee Title, New Easement, Renewed Easement]	Self-Explanatory	list	
				Start date of easement	In most cases, this will be a Conservation Easement; not a construction easement. This metric does not apply to fee title acquisitions.	date	
				End date of easement	In most cases, this will be a Conservation Easement; not a construction easement. This metric does not apply to fee title acquisitions.	date	
				Start date of the purchase	This is the closing date of the transaction.	date	
				# of riparian miles protected	Add length on both sides when both sides are protected. Add one side when one side is protected. Normally, riparian habitat protection is intended for the benefit of fish.	number	0.01
				# of riparian acres protected	# of acres applies to both wildlife and fish habitat land transactions. Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
				# of wetland acres protected	# of acres applies to both wildlife and fish habitat land transactions. Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
				# of habitat units protected by land purchase or easement	Use this habitat unit metric where land purchase or conservation easement is for the benefit of wildlife.	number	1.0
				Start latitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001



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				Start longitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				End longitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				# of upland acres protected	# of acres applies to both wildlife and fish habitat land transactions. Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
28	Trap and Haul	Habitat/Passage O&M	Work to capture and transport fish usually by means of trucking or barging for the purpose of assisting upstream and/or downstream migration and/or fish salvage operations. If trapping and hauling for predator control use WE# 190 Remove or Exclude Animals. If installing a fish trap, use WE# 70: Install Fish Monitoring Equipment.	# of fish	Self-Explanatory	number	1.0
29	Increase Instream Habitat Complexity	Habitat Improvement	Work that adds natural materials instream to create habitat features or to improve channel morphology. Includes J-hooks, barbs, vortex weirs, and large woody debris (LWD). Can include work to stabilize or maintain a streambank, such as riprap. If structures are being added primarily to overcome a fish passage barrier, use WE# 184: Install Fish Passage Structure. If replacing or maintaining an existing structure use WE# 186: Operate and Maintain Habitat/Passage.	# of stream miles treated	Self-Explanatory	number	0.01
				# of structures installed	For example: Over the course of two miles of stream, 10 J-hooks, 3 weirs and 35 pieces of LWD were placed; total number reported = 48.	number	1.0
				Start latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				Start longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001



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				End longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
30	Realign, Connect, and/or Create Channel	Habitat Improvement	Active attempts to directly add sinuosity, meanders, side channels, and/or off-channel habitats (e.g., sloughs or oxbows). May include reconnection of historical channels (either via excavation or diversion of existing streamflow), excavation of new channels, and/or significantly improving the functionality of existing channels (e.g., creating a "natural" spawning channel for chum). If work is solely to add structures/features that change hydraulic conditions and that may eventually cause channel realignment, then use WE# 29: Increase Instream Habitat Complexity. If the work includes removal of a barrier for fish passage into upstream reaches of the existing channel, then use WE# 84: Remove/Install Diversion, WE# 85: Remove/Breach Dam, or WE# 184: Install Fish Passage Structure, since the miles of opened habitat must be recorded as a metric.	Start latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				Start longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				End longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				# of acres of wetland affected by treatment	Includes off-channels after realignment. Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. This metric only applies to work in a pre-existing wetland or work which reconnects historic wetland.	number	0.1
				# of stream miles after treatment	Includes off-channels after realignment.	number	0.1
				# of stream miles before treatment	Self-Explanatory	number	0.1



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31	Conduct Controlled Burn	Habitat Improvement	Use of fire to improve habitat.	# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
33	Decommission Road/Relocate Road	Habitat Improvement	Any activity that makes a road unusable including adding berms, pits, boulders or logs, and/or ripping or obliterating the road with heavy equipment that may involve re-contouring the slope. Also use for building a road in a more appropriate location to replace a decommissioned road. If decommissioning by planting vegetation or seeding use WE# 47: Plant Vegetation. If removal of fish barrier (e.g., culvert) is included, also use WE# 84: Remove/Install Diversion, WE# 85: Remove/Breach Dam, or WE# 184: Install Fish Passage Structure. If work also involves channel realignment, use WE# 30: Realign, Connect, and/or Create Channel in addition to this work element.	Type of decommissioning [Blocked, Scarified/Ripped, Recontoured]	Self-Explanatory	list	
				# of road miles treated in a riparian area	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
				# of road miles treated in an upland area	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
				Start latitude of treated road segment	Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of treated road segment	Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				Start longitude of treated road segment	Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				End longitude of treated road segment	Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001



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36	Develop Terrestrial Habitat Features	Habitat Improvement	Includes the installation and/or creation of structures for the benefit of wildlife species, including, but not limited to, nest boxes/platforms, avian perches, snags, and artificial roosting sites.	# of features	Self-Explanatory	number	1.0
38	Improve Road	Habitat Improvement	Work designed to eliminate or reduce erosion, sediment, and/or toxic run-off from reaching streams, rivers, or wetlands from roads currently in use.	# of road miles treated in a riparian area	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
				# of road miles treated in an upland area	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
40	Install Fence	Habitat Improvement	Work to install various types of fence and/or gates. Can also include cattle guards or water gaps for livestock.	Start latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				Start longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				End longitude of treated stream reach	This metric only applies to work in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				# of fence miles treated in a riparian area	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
				# of fence miles treated in an upland area	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total miles treated, we will sum the upland and riparian mileage.	number	0.01
47	Plant Vegetation	Habitat Improvement	Install plants for purposes such as erosion control, roughness recruitment, shading, restoring native habitat, forage enhancement, road removal. May be riparian or upland and includes seeding. If maintaining vegetation, use WE# 22: Maintain Vegetation.	# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1



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48	Practice No-till and Conservation Tillage Systems	Habitat Improvement	Includes establishing conservation tillage systems that focus on increased crop residue during subsequent crop seeding, and/or the reduction or elimination of traditional tilling practices. Work may also include the purchase of chaff chopper/spreaders and other small equipment (generally co-operatively purchased) designed to aid in no- or reduced- till operations and crop residue enhancement.	# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of riparian miles treated	Add length treated on both sides when both sides are treated. Add one side when one side is treated. Normally, riparian habitat protection is intended for the benefit of fish.	number	0.01
				# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
52	Remove Mine Tailings	Habitat Improvement	Work to remove or re-contour remnant landscape effects from old mining operations. Could be terrestrial or aquatic in nature.	# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				Was barrier Full or Partial?	Applies to the removal of mine tailings in aquatic habitat.	list	
				Did the tailings create a fish passage barrier?	Applies to the removal of mine tailings in aquatic habitat.	list	
				# of miles of habitat accessed	Applies to the removal of mine tailings in aquatic habitat.	number	0.1



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53	Remove Vegetation	Habitat Improvement	Removal, either mechanical, biological, or chemical, of one or more plant species or a number of individuals of a plant species. Often are exotic or non-native plants, naturalized plants, or undesirable native plants. Includes the removal of both aquatic and terrestrial plants. Includes tree stand manipulation in order to create forage openings. If you are re-treating an area or using a different technique in a previously treated area, use WE# 22: Maintain Vegetation. WE# 53: Remove Vegetation, should only be used if you have a new objective or are treating a new area.	# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of riparian miles treated	Add length treated on both sides when both sides are treated. Add one side when one side is treated. Normally, riparian habitat protection is intended for the benefit of fish.	number	0.01
				# of stream miles treated	Self-Explanatory	number	0.01
55	Upland Erosion and Sedimentation Control	Habitat Improvement	May include the installation of water bars, gully plugs and culvert outlets, grassed waterways, grade stabilization structures, sediment catchment ponds/basins, and removal of drainage pipes and other blockages to specifically prevent a sediment slump or landslide. Does not include improvements to roads (for that work, use WE# 38: Improve Road).	# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). Because this work element only covers upland habitat, the acreage provided for this metric should equal the total acres treated.	number	0.1
				# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located in upland areas, the acres you claim here may overlap with the acres you claim as upland. Because wetland is a subset of upland, we will assume the upland acres represent the total acres treated.	number	0.1



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56	Acclimate Juvenile Fish	Hatchery O&M	Includes work performed under contracts solely for acclimation of juvenile fish. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# of fish released	Self-Explanatory	number	1.0
59	Incubate Eggs	Hatchery O&M	Includes work performed under contracts solely for incubation of fish eggs. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# of eggs into program	Self-Explanatory	number	1.0
				# of fry (button-up) produced	Self-Explanatory	number	1.0
63	Rear Fish	Hatchery O&M	Includes work performed under contracts solely for rearing of fish, e.g., contracts for net pen rearing of Kokanee. Also describes captive rearing work. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# of smolts into program	Self-Explanatory	number	1.0
				# of smolts released from program	Does not apply to bass/sturgeon	number	1.0
				# juveniles (presmolt) into program	Self-Explanatory	number	1.0
				# juveniles (presmolt) released from program	Self-Explanatory	number	1.0
				# of adults into program	Self-Explanatory	number	1.0
				# of adults released from program	Self-Explanatory	number	1.0
64	Spawn Fish	Hatchery O&M	Includes work performed under contracts solely for spawning of adult fish. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# of Female ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Female non-clip (natural origin) fish	Self-Explanatory	number	1.0



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66	Trap/Collect/Hold/Transport Fish - Hatchery	Hatchery O&M	Includes work performed under contracts solely for trapping, collecting, transporting, and/or holding fish (all life history stages) for inclusion in a fish culture program. If the full range of fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish, with Milestones for trapping, collecting, transporting, and/or holding fish, as appropriate.	# of Male ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Male non-clip (natural origin) fish	Self-Explanatory	number	1.0
				# of Jack ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Jack non-clip (natural origin) fish	Self-Explanatory	number	1.0
				Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# of eggs (hatchery origin)	Self-Explanatory	number	1.0
				# of eggs (natural origin)	Self-Explanatory	number	1.0
				# of ad-clip (hatchery origin) smolts	Self-Explanatory	number	1.0
				# of non-clip (natural origin) smolts	Self-Explanatory	number	1.0
				# of ad-clip (hatchery origin) juveniles (presmolt)	Self-Explanatory	number	1.0
				# of non-clip (natural origin) juveniles (presmolt)	Self-Explanatory	number	1.0
				# of ad-clip (hatchery origin) adults	Self-Explanatory	number	1.0
69	Install Fish Screen	Instream Passage Improvement	Work to install or replace a fish screen associated with a diversion or pump. Typical screen types include rotary drum, flat plate or traveling. The design of complex or large-scale screens is typically a separate work element. See WE# 175: Produce Design and/or Specifications.	# of non-clip (natural origin) adults	Self-Explanatory	number	1.0
				Does the screen meet NOAA specs?	Self-Explanatory	list	
				Is the screen New or a Replacement?	Self-Explanatory	list	
				Quantity of water protected by screening in acre-feet	Determined by what is stated in the water right or calculated based on flow rate.	number	0.1



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				Flow rate at the screen diversion allowed by the water right in cubic-feet per second (cfs)	Self-Explanatory	number	0.1
82	Install Well	Water Conservation	Install well to enable groundwater to be used as an alternative to instream flow. Wells installed to provide hatchery or acclimation water supplies should be covered under WE# 171: Build Artificial Production Facility.	# of miles of primary stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				# of miles of total stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in acre-feet/year	This is the seasonal volume of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until an official water transaction is recorded.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in cubic-feet per second (cfs)	This is the rate of flow of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until, and if, an official water transaction is recorded.	number	0.1
84	Remove/Install Diversion	Instream Passage Improvement	Work that removes, replaces, or avoids creating a fish passage barrier associated with a stream diversion, including push-up dams. May be part of a diversion consolidation effort that reduces the number of diversion sites. Includes installation of alternative ways to divert stream flow without creating passage barriers caused by traditional diversion structures. Examples include, but are not limited to, infiltration galleries, instream diversion pumps, and lay-flat stanchions.	# of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	Self-Explanatory	number	0.1
				# of screens addressed	This metric applies to screens associated with the removal of a diversion.	number	1.0
85	Remove/Breach Dam	Instream Passage Improvement	Work that facilitates fish passage over a natural (e.g., beaver) or human-made dam by breaching or removal. If the dam is part of a diversion, use WE# 84: Remove/Install Diversion.	# of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	Self-Explanatory	number	0.1
92	Lease Land	Land Acquisition / Conservation Easement	Includes riparian, grazing, and multiple-use leases, typically for multiple years.	# of riparian miles protected	Add length on both sides when both sides are protected. Add one side when one side is protected. Normally, riparian habitat protection is intended for the benefit of fish.	number	0.01



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				# of riparian acres protected	# of acres applies to both wildlife and fish habitat land transactions. Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
				Start latitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				End latitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	lat	0.000001
				Start longitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				End longitude of protected stream reach	This metric only applies to acquisitions in riparian areas. Must be entered in decimal degrees. For help converting from degrees, minutes, seconds go to http://www.fcc.gov/mb/audio/bickel/DDDMSS-decimal.html .	long	0.000001
				Type of lease [New Lease, Renewed Lease]	Self-Explanatory	list	
				Start date of lease	Self-Explanatory	date	
				End date of lease	Self-Explanatory	date	
				# of upland acres protected	# of acres applies to both wildlife and fish habitat land transactions. Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
99	Outreach and Education	Planning and Coordination	Covers work to educate or communicate with the public. Includes conducting classes, seminars, workshops, training, symposia, and conferences. Excludes work to coordinate landowners or other direct participants in on-the-ground conservation (include this type of coordination as part of the associated implementation WE), or work to identify and select new projects (WE# 114: Identify and Select Projects).	# of wetland acres protected	# of acres applies to both wildlife and fish habitat land transactions. Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres purchased, we will sum the upland and riparian acreage.	number	0.1
				# of students reached	This is the total number of "class" participants for any given event; it does not include members of the "presenting" organization.	number	1.0



Metric Guidance for Work Elements

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				# of general public reached	This is the total number of "class" participants for any given event; it does not include members of the "presenting" organization.	number	1.0
				# of teachers reached	This is the total number of "class" participants for any given event; it does not include members of the "presenting" organization.	number	1.0
						list	
148	Install Flow Measuring Device	Water Conservation	Includes activities for installing and/or moving electrical flow gauges or other complex flow measuring devices, such as flow gauges using telemetry to transmit data. Devices may be fixed or portable. Actual measurement would occur under WE# 157: Collect/Generate/Validate Field and Lab Data.	Is the measuring device portable or fixed?	Self-Explanatory		
149	Install Pipeline	Water Conservation	Includes activities related to installing a pipeline as part of a fish and wildlife project. If pipeline is installed for purposes of increasing flow, other options should first be considered to accomplish purpose, such as water transactions or obtaining cost-share for this work element and subsequently transferring conserved water instream.	# of miles of primary stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				# of miles of total stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in acre-feet/year	This is the seasonal volume of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until an official water transaction is recorded.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in cubic-feet per second (cfs)	This is the rate of flow of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until, and if, an official water transaction is recorded.	number	0.1
150	Install Sprinkler	Water Conservation	Includes activities related to installing a sprinkler system as part of a fish and wildlife project. If sprinkler is installed for purposes of increasing flow, other options should first be considered to accomplish purpose, such as water transactions or obtaining cost-share for this work element and subsequently transferring conserved water instream.	# of miles of primary stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1



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151	Line Diversion Ditch	Water Conservation	Includes activities related to lining a ditch as part of a fish and wildlife project. If lining of diversion ditch is considered for purposes of increasing flow, other options should first be considered to accomplish purpose, such as ditch consolidation, water transactions or obtaining cost-share and transferring conserved water instream.	# of miles of total stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in acre-feet/year	This is the seasonal volume of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until an official water transaction is recorded.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in cubic-feet per second (cfs)	This is the rate of flow of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until, and if, an official water transaction is recorded.	number	0.1
				# of miles of primary stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in acre-feet/year	This is the seasonal volume of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until an official water transaction is recorded.	number	0.1
				Amount of unprotected water flow returned to the stream by conservation in cubic-feet per second (cfs)	This is the rate of flow of water left instream due to irrigation efficiencies or the removal of a diversion; this water is "unprotected" until, and if, an official water transaction is recorded.	number	0.1
				# of miles of secondary stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1
				# of miles of total stream reach improvement	The assumption here is that the work is designed to eliminate an irrigation diversion or to provide irrigation efficiencies. The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the well to the next downstream diversion or confluence, whichever comes first.	number	0.1



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157	Collect/Generate/Validate Field and Lab Data	RM & E and Data Management	Work to collect, create, generate, or capture source data. Includes initial entering of data into a computer spreadsheet/database, developing automated data capture programs/routines and related hardware/software (e.g., PDAs, data loggers, thermographs), preparing metadata, and quality assurance/quality control processes. Also includes taking samples for later analysis (e.g., fish tissues for DNA analysis, macroinvertebrate samples, etc.), and any preparations for collecting data if not covered by another work element. This work element covers most laboratory analyses, which are collecting data from specimens. It also includes generating secondary/derived data when those data are stored in a database for access and use by other parties for analysis like primary data. Capturing data includes entering data into a computer from historical records, digitizing images, and other methods for converting information to digital format.	R, M, and E Focal Area [Tributaries, Hydrosystem, Estuary, Ocean, Harvest, Hatchery, Systemwide, Emerging Issues]	<p>Focal Area information helps us classify Research, Monitoring, and Evaluation work. While most Focal Area types are self-explanatory, definitions of "Systemwide" and "Emerging Issues" follow.</p> <p>Systemwide refers to research and monitoring and evaluation proposals directed at broader matters related to the Columbia system or overall program. This work will be reviewed in the Systemwide side of the project review process. This work will tend to be: Focused on monitoring populations or habitat, but are not clearly linked to informing, in a specific and direct way, the management actions or projects that manipulate those populations or habitat; Seeking to expand the general knowledge about a species or the environment or; For information management and coordination generally.</p> <p>Emerging Issues includes several topics that warrant attention, but are not being managed by other regional planning forums that support the Fish and Wildlife Program or recovery planning. The emerging issues affect anadromous fish, resident fish, and wildlife include the implications of climatic effects, toxic contaminants, invasive species, and the impacts of human population expansion. These are issues for which there is leadership at the state and national level, but not at the regional level. Consequently, they are raised here because they include important management questions for the Fish and Wildlife Program; and, are generally neglected within the scope of most other regional plans. Because the emerging issues encompass broader federal and state resource management issues, it is incumbent upon the Regional Research Partnership to develop implementation scenarios in which parties other than the Council will have leadership roles and responsibilities, and a substantial cost-share.</p>	list	



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Primary R, M, and E Type [Status and Trend Monitoring, Action Effectiveness Research, Uncertainties Research, Project Implementation/ Compliance Monitoring]

Primary Research, Monitoring, and Evaluation Type refers to the primary goal of the work. If there is a secondary type, please enter it under the metric "Secondary R, M, and E Type". This information helps us classify R, M, and E work. Definitions of each type follow.

Status and Trend Monitoring is short for Fish/Wildlife Population and Environmental Status and Trend Monitoring which is defined as census or statistically designed monitoring of fish or wildlife population and/or environmental conditions (i.e. watershed conditions) to assess the current status or change (trend) over time. This is sometimes referred to as an observational study (ISRP, 2005). These monitoring data may also be used to correlate fish performance with environmental conditions.
* Ecosystem/Landscape level, broad-scale, periodic monitoring (referred to as Tier 1 Monitoring)
* Geographically localized, frequent monitoring (referred to as Tier 2 Monitoring)

Action Effectiveness Research refers to research to determine the effects of an action or suite of actions on fish survival, productivity and/or habitat conditions (referred to as Tier 3 monitoring). This is a manipulative experiment that statistically assesses the effect of a treatment (action) condition relative to a control or reference condition. Action effectiveness research can be performed for a localized effect (project or stream reach level effect) or for a watershed level effect (intensively monitored effect). Localized (project level) effects most commonly identify changes in habitat conditions associated with the action, while fish or biological responses may require a watershed level (intensively monitored approach) to capture a broader area in which a biological response is expressed.

Uncertainties Research refers to research to resolve scientific uncertainties regarding the relationships between fish or wildlife health, population performance (abundance, survival, productivity, distribution, diversity), habitat conditions, life history and/or genetic conditions (e.g., the existence and causes of delayed mortality, hatchery spawner reproductive success relative to wild populations, etc.). This is a manipulative experiment where variables are manipulated to infer or demonstrate cause and effect relationships using statistical-designed hypothesis testing. Uncertainties research does not include experimental research and monitoring specifically targeting the effect of a mitigation or restoration action (this is Action Effectiveness Research). It also does not include monitoring (observational studies) of fish or habitat conditions with inferences from statistical correlation assessments (this is Status and Trend Monitoring).

Project Implementation/Compliance Monitoring refers to monitoring the execution and outcomes of projects. This type of monitoring does not require environmental response data directly linking restoration actions to physical, chemical, or biological responses.
* Project Implementation monitoring determines whether projects were carried out as planned, through documentation of the type and location of management action, and whether the action was implemented properly or complies with established standards. This is generally carried out as an administrative review and does not require any parameter measurements beyond those specified by the project design requirements. It is

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			Primary R, M, and E Type [Status and Trend Monitoring, Action Effectiveness Research, Uncertainties Research, Project Implementation/ Compliance Monitoring]	usually a low-cost monitoring activity that should be included for all mitigation activities. * Project Compliance monitoring determines whether specified project criteria are being met, through a post-project auditing of project performance. This type of monitoring would typically not be carried out by the project sponsor, and may require the development of independent, compliance monitoring projects. A limited, statistical-designed sample of projects could be monitored annually for compliance.	list
			Secondary R, M, and E Type [Status and Trend Monitoring, Action Effectiveness Research, Uncertainties Research, Project Implementation/ Compliance Monitoring]	Secondary Research, Monitoring, and Evaluation Type refers to a secondary goal or indirect benefit of the work. This information helps us classify R, M, and E work. For definitions of each type, see the Guidance under the "Primary R, M, and E Type" metric.	list
158	Mark/Tag Animals	RM & E and Data Management	Covers activities integral to placing marks/tags on animals. Recognizing that this is a subset of data collection/generation, it has been separated to facilitate tracking the sometimes-significant costs associated with animal marking/tagging. This work element includes capture and bio-sampling activities when they support a primary purpose of placing the mark/tag. It also includes monitoring the effects of the mark/tag on the animals (e.g., tagging mortality), the mark/tag retention/detectability, other QA/QC for the mark/tag data, and creation of associated metadata. It does not include capture activities when the primary purpose is to collect biological data and does not include subsequent mark/tag observations and analysis.	R, M, and E Focal Area [Tributaries, Hydrosystem, Estuary, Ocean, Harvest, Hatchery, Systemwide, Emerging Issues] Focal Area information helps us classify Research, Monitoring, and Evaluation work. While most Focal Area types are self-explanatory, definitions of "Systemwide" and "Emerging Issues" follow. Systemwide refers to research and monitoring and evaluation proposals directed at broader matters related to the Columbia system or overall program. This work will be reviewed in the Systemwide side of the project review process. This work will tend to be: Focused on monitoring populations or habitat, but are not clearly linked to informing, in a specific and direct way, the management actions or projects that manipulate those populations or habitat; Seeking to expand the general knowledge about a species or the environment or; For information management and coordination generally. Emerging Issues includes several topics that warrant attention, but are not being managed by other regional planning forums that support the Fish and Wildlife Program or recovery planning. The emerging issues affect anadromous fish, resident fish, and wildlife include the implications of climatic effects, toxic contaminants, invasive species, and the impacts of human population expansion. These are issues for which there is leadership at the state and national level, but not at the regional level. Consequently, they are raised here because they include important management questions for the Fish and Wildlife Program; and, are generally neglected within the scope of most other regional plans. Because the emerging issues encompass broader federal and state resource management issues, it is incumbent upon the Regional Research Partnership to develop implementation scenarios in which parties other than the Council will have leadership roles and responsibilities, and a substantial cost-share.	list



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* Ecosystem/Landscape level, broad-scale, periodic monitoring (referred to as Tier 1 Monitoring)
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Action Effectiveness Research refers to research to determine the effects of an action or suite of actions on fish survival, productivity and/or habitat conditions (referred to as Tier 3 monitoring). This is a manipulative experiment that statistically assesses the effect of a treatment (action) condition relative to a control or reference condition. Action effectiveness research can be performed for a localized effect (project or stream reach level effect) or for a watershed level effect (intensively monitored effect). Localized (project level) effects most commonly identify changes in habitat conditions associated with the action, while fish or biological responses may require a watershed level (intensively monitored approach) to capture a broader area in which a biological response is expressed.

Uncertainties Research refers to research to resolve scientific uncertainties regarding the relationships between fish or wildlife health, population performance (abundance, survival, productivity, distribution, diversity), habitat conditions, life history and/or genetic conditions (e.g., the existence and causes of delayed mortality, hatchery spawner reproductive success relative to wild populations, etc.). This is a manipulative experiment where variables are manipulated to infer or demonstrate cause and effect relationships using statistical-designed hypothesis testing. Uncertainties research does not include experimental research and monitoring specifically targeting the effect of a mitigation or restoration action (this is Action Effectiveness Research). It also does not include monitoring (observational studies) of fish or habitat conditions with inferences from statistical correlation assessments (this is Status and Trend Monitoring).

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162	Analyze/Interpret Data	RM & E and Data Management	These activities apply analytical tools to render meaning from data for making better management decisions. They go beyond data summaries. Often involving tests of statistical significance, this work element also may include modeling, indices, and synthesis. Typically culminates in resource management recommendations presented in a report of research/evaluation findings or analyses presented as formal publications.	R, M, and E Focal Area [Tributaries, Hydrosystem, Estuary, Ocean, Harvest, Hatchery, Systemwide, Emerging Issues]	<p>Focal Area information helps us classify Research, Monitoring, and Evaluation work. While most Focal Area types are self-explanatory, definitions of "Systemwide" and "Emerging Issues" follow.</p> <p>Systemwide refers to research and monitoring and evaluation proposals directed at broader matters related to the Columbia system or overall program. This work will be reviewed in the Systemwide side of the project review process. This work will tend to be: Focused on monitoring populations or habitat, but are not clearly linked to informing, in a specific and direct way, the management actions or projects that manipulate those populations or habitat; Seeking to expand the general knowledge about a species or the environment or; For information management and coordination generally.</p> <p>Emerging Issues includes several topics that warrant attention, but are not being managed by other regional planning forums that support the Fish and Wildlife Program or recovery planning. The emerging issues affect anadromous fish, resident fish, and wildlife include the implications of climatic effects, toxic contaminants, invasive species, and the impacts of human population expansion. These are issues for which there is leadership at the state and national level, but not at the regional level. Consequently, they are raised here because they include important management questions for the Fish and Wildlife Program; and, are generally neglected within the scope of most other regional plans. Because the emerging issues encompass broader federal and state resource management issues, it is incumbent upon the Regional Research Partnership to develop implementation scenarios in which parties other than the Council will have leadership roles and responsibilities, and a substantial cost-share.</p>	list



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				Primary R, M, and E Type [Status and Trend Monitoring, Action Effectiveness Research, Uncertainties Research, Project Implementation/ Compliance Monitoring]	usually a low-cost monitoring activity that should be included for all mitigation activities. * Project Compliance monitoring determines whether specified project criteria are being met, through a post-project auditing of project performance. This type of monitoring would typically not be carried out by the project sponsor, and may require the development of independent, compliance monitoring projects. A limited, statistical-designed sample of projects could be monitored annually for compliance.		list
				Secondary R, M, and E Type [Status and Trend Monitoring, Action Effectiveness Research, Uncertainties Research, Project Implementation/ Compliance Monitoring]	Secondary Research, Monitoring, and Evaluation Type refers to a secondary goal or indirect benefit of the work. This information helps us classify R, M, and E work. For definitions of each type, see the Guidance under the "Primary R, M, and E Type" metric.		list
164	Acquire Water Instream	Water Transactions	Covers final aspects to complete implementation of water transactions through the Columbia Basin Water Transactions Program process. Work includes steps for payment of funds to water right holder and/or completion of agreement for securing protected water instream. This work element is generally linked with WE# 154: Develop and Negotiate Water Right Transaction.	# of miles of primary stream reach improvement	The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the acquisition to the next downstream diversion or confluence, whichever comes first. The term acquisition refers to either the lease or the purchase of water.	number	0.1
				# of miles of total stream reach improvement	The # of miles refers to the distance (0.1 miles) from the point of diversion being addressed by the acquisition to the confluence. The term total includes both primary and secondary stream reaches. The term acquisition refers to either the lease or the purchase of water.	number	0.1
				Amount of water secured in acre-feet/year	This is the total volume of water being addressed by the acquisition over the course of one irrigation season. The term acquisition refers to either the lease or the purchase of water.	number	0.1
				Flow of water returned to the stream as prescribed in the water acquisition in cubic-feet per second (cfs)	Provide the average rate of flow expected by the acquisition. The term acquisition refers to either the lease or the purchase of water.	number	0.1
				End month for water instream	This is the end of the season in which flow will be returned. Pertains to acre-feet of water acquisition.	list	
				Start month for water instream	This is the beginning of the season in which flow will be returned. Pertains to acre-feet of acquisition. The term acquisition refers to either the lease or the purchase of water.	list	
				Start date of returned flow	This refers to the start of the agreement, when it expires (month and year, only). The term acquisition refers to either the lease or the purchase of water.	date	
				End date of returned flow	This refers to the end of the agreement, when it expires (month and year, only). For permanent acquisitions, enter 2099. The term acquisition refers to either the lease or the purchase of water.	date	



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ID	Work Element Name	Category	Work Element Definition	Metric	Metric Guidance	Metric Type	Metric Precision
165	Produce Environmental Compliance Documentation	Environmental Compliance	Covers any work by the Contractor to assemble, gather, acquire, or prepare documents in support of obtaining environmental compliance from BPA, providing maps, drafting a Biological Assessment, obtaining permits, conducting public involvement activities, completing an archaeological survey, etc.). In all cases, environmental compliance work done by the Contractor must be separated from all other work. It is not permitted to combine environmental compliance activities with any other work element.	Are herbicides used as part of work performed under this contract?	Please select yes if you are using BPA funding to apply herbicides as part of this contract. Herbicide use is often related to noxious weed control, restoration of native vegetation, or for rehabilitation purposes after construction.	list	
176	Produce Hatchery Fish	Hatchery O&M	This work element includes the fish culture activities associated with a "typical" hatchery O&M contract: obtaining broodstock, spawning broodstock, incubating fertilized eggs, rearing juveniles, acclimating the juveniles offsite prior to release, and releasing the juveniles into a stream or lake, either onsite or from a separate acclimation facility. Includes transportation of fish or eggs between various locations. Most hatchery O&M contractors can use this work element, "Produce Hatchery Fish," along with WE# 61: Maintain Hatchery, in their SOWs. However, there are hatchery contracts that involve only one or two of these fish culture activities, e.g., acclimation facility O&M contracts. In this case, select the work element (or possibly several) from the following list that best describes the fish culture work associated with the contract.	Purpose of production program [Supplementation, Harvest Augmentation, Research]	Self-Explanatory	list	
				# juveniles (presmolt) released from program	Self-Explanatory	number	1.0
				# of Female ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Female non-clip (natural origin) fish	Self-Explanatory	number	1.0
				# of Male ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Male non-clip (natural origin) fish	Self-Explanatory	number	1.0
				# smolts into program (fish ponded)	Does not apply to bass/sturgeon	number	1.0



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				# smolts released from program	Does not apply to bass/sturgeon	number	1.0
				# juveniles (presmolt) into program (fish ponded)	Self-Explanatory	number	1.0
				# adults into program (fish ponded)	Self-Explanatory	number	1.0
				# adults released from program	Self-Explanatory	number	1.0
				# of Jack ad-clip (hatchery origin) fish	Self-Explanatory	number	1.0
				# of Jack non-clip (natural origin) fish	Does not apply to bass/sturgeon	number	1.0
				# eggs into program (fish ponded)	Self-Explanatory	number	1.0
				# fertilized eggs into incubation program	Self-Explanatory	number	1.0
				# eggs released from program	Self-Explanatory	number	1.0
				# fry (button-up) produced	Self-Explanatory	number	1.0
180	Enhance Floodplain	Habitat Improvement	Refers to the removal or breaching of a dike to restore floodplain function or the enhancement of a floodplain through the addition of large woody debris. May also involve the installation of a tidegate or water control structure.	# of acres treated	Self-Explanatory	number	0.1
				# of wetland acres treated	Wetland is defined as meeting the federal standard for wetland delineation under the Clean Water Act. Because wetlands can be located either in riparian or upland areas, the acres you claim here should overlap with the acres you claim as upland and/or riparian. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
181	Create, Restore, and/or Enhance Wetland	Habitat Improvement	Refers to the creation, restoration, or enhancement of a wetland. May include a water control structure, a tidegate, dike removal or breaching, re-contouring, and excavation.	# of acres treated	Self-Explanatory	number	0.1
				# of riparian acres treated	Riparian is defined as above the ordinary high water mark of the stream and within the flood plain of streams. To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1
				# of upland acres treated	Upland is defined as above the elevation of the riparian zone (above the floodplain). To determine total acres treated, we will sum the upland and riparian acreage.	number	0.1



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183	Produce Journal Article	Reporting	This work element applies to manuscripts being submitted for publication. Preliminary analyses towards the publication of a journal article can be covered by WE# 132: Produce (Annual) Progress Report.	# of draft scientific reports submitted	TBD	number	1.0
				# of draft manuscripts and draft final reports of research findings submitted for publication	TBD	number	1.0
184	Install Fish Passage Structure	Instream Passage Improvement	Install, replace or modify structures when the intent is to improve fish passage and/or flow, typically by removing or modifying a full or partial instream barrier. Includes the following types of structures: fish ladders, bridges, culverts, jump pools, and weirs. Use WE# 70: Install Fish Monitoring Equipment, for weirs installed primarily to restrict fish passage for the purpose of monitoring or collecting fish (e.g., picket weirs). Design of complex or large-scale fish passage structures is often a separate work element (see WE# 175: Produce Design and/or Specifications).	Was barrier Full or Partial?	Self-Explanatory	list	
				# of miles of habitat accessed to the next upstream barrier(s) or likely limit of habitable range	Self-Explanatory	number	0.1
				If installing a ladder, does the ladder meet NOAA specifications for attraction flow, pool dimensions, jump height, etc?	Self-Explanatory	list	
				Does the structure remove or replace a fish passage barrier?	Self-Explanatory	list	



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6	TBL Work	BPA Internal Operations	This is a BPA Internal-use only Work Element. BPA uses this work element for any work the Transmission Business Line provides in support of a fish and wildlife project. May include appraisal review, appraisals, help in development of an MOA, real estate negotiations, survey/photogrammetry, and GIS work. Additionally, relocation costs associated with a land purchase are captured here.	No metrics needed for this work element			
22	Maintain Vegetation	Habitat/Passage O&M	Activities that include herbicide application, plant competition reduction (scalping, mats), mowing, irrigation, fertilization, prevention or reduction of animal damage (browse repellents, tree tubes).	No metrics needed for this work element			
26	Investigate Trespass	Habitat/Passage O&M	Efforts involved with establishing whether trespass is occurring (human or livestock). For fence maintenance use WE# 186: Operate and Maintain Habitat/Passage.	No metrics needed for this work element			
27	Remove Debris	Habitat/Passage O&M	Removal of items such as trash, old buildings, and abandoned equipment from water or land. Does not include removal of a diversion or instream structure. For removal of organic matter when cleaning screens use WE# 186: Operate and Maintain Habitat/Passage.	No metrics needed for this work element			
34	Develop Alternative Water Source	Habitat Improvement	Includes, but not limited to, watering troughs, spring and well development, guzzler installation.	No metrics needed for this work element			
35	Develop Pond	Habitat Improvement	Develop a pond and its surrounding habitat for resident fish and/or waterfowl. May involve the installation of a water control structure or excavation. Does not apply to sediment control ponds (WE# 55: Upland Erosion and Sedimentation Control); acclimation ponds (WE# 171: Build Artificial Production Facility); or wetlands (WE# 181: Create, Restore, and/or Enhance Wetland).	No metrics needed for this work element			
44	Enhance Nutrients Instream	Habitat Improvement	Addition of fish carcasses, or direct nutrient introduction via fertilizer to improve biological diversity in a stream or river.	No metrics needed for this work element			



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60	Maintain Fish Health	Hatchery O&M	Includes the work performed under contracts solely for fish health maintenance, such as fish health monitoring, pathology sampling, laboratory processing of samples, and consultation with fish health professionals.	No metrics needed for this work element			
61	Maintain Hatchery	Hatchery O&M	Includes all maintenance and repair activities associated with fish production facilities, including maintenance of buildings, grounds, raceways, acclimation ponds, net pens, water treatment facilities, equipment, vehicles, etc. This work element is intended to include activities related to care of physical structures and grounds and not the care of fish. For example, work to produce fish would be under WE# 176: Produce Hatchery Fish, or WE# 59: Incubate Eggs.	No metrics needed for this work element			
70	Install Fish Monitoring Equipment	RM & E and Data Management	Installation of a weir, trap, electronic portal, or other equipment or facility used to monitor fish passage or to collect juvenile or adult fish. This describes the installation of relatively permanent fixed facilities as well as more mobile equipment, like rotary screw traps for smolts. Use this WE when the effort/cost to install is substantial, otherwise installation (and removal) could simply be a milestone under the WE for which the equipment will be used, typically WE# 157: Collect/Generate/Validate Field and Lab Data, or WE# 158: Mark/Tag Animals.	No metrics needed for this work element			
80	Install Siphon	Instream Passage Improvement	Covers work that installs a siphon, flume or other structure to separate canal flow from stream flow where the two have been intermingled as part of past irrigation development, resulting in fish using the natural stream course for passage and rearing. The design of these structures is typically a separate work element and should use WE# 175: Produce Design and/or Specifications.	No metrics needed for this work element			
87	Prepare HEP Report	Land Acquisition / Conservation Easement	Report to present the findings of the Habitat Evaluation Procedure (HEP) survey conducted by the Regional HEP team.	No metrics needed for this work element			



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98	Other	Other	In rare instances, a contractor may be performing a type of work that is fundamentally different than anything described by existing work elements. In such a case, the contractor should consult with his or her BPA project manager to determine if using the "Other" work element is appropriate.	<i>No metrics needed for this work element</i>			
114	Identify and Select Projects	Planning and Coordination	Covers work by the contractor to identify, prioritize, assess, and ultimately select projects. Often associated with Model Watersheds, or habitat restoration programs that coordinate multiple projects within a larger umbrella project. Coordination work that helps identify and select projects or sites should be covered under this work element.	<i>No metrics needed for this work element</i>			
115	Produce Inventory or Assessment	Planning and Coordination	Covers inventories and assessments specifically designed to support future implementation actions. Can include passage inventories, habitat condition inventories, or watershed assessments. Does not cover ongoing passage and habitat monitoring.	<i>No metrics needed for this work element</i>			
119	Manage and Administer Projects	Planning and Coordination	Covers the administrative and technical work by the contractor to fulfill BPA's programmatic and contractual requirements such as financial reporting (accruals), and development of an SOW package (includes SOW, budget, property inventory).	<i>No metrics needed for this work element</i>			
122	Provide Technical Review	Planning and Coordination	The review of technical details, including but not limited to engineering plans, restoration plans, project selection, RM&E methods, and deliverable approval.	<i>No metrics needed for this work element</i>			



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132	Produce (Annual) Progress Report	Reporting	<p>This work element covers written reports of results that typically are submitted to BPA at the end of a contract period for dissemination to the public. Previously called "Annual" reports, these progress reports may cover less than a year or multiple years. They are not required or appropriate for all contracts in all years, but are particularly important when useful results are not captured by standard Pisces metrics or status reports.</p> <p>Progress Reports come in two types. "Technical" reports are used for contracts that develop RM&E Methods and Designs (WE# 156), Analyze/Interpret Data (WE#1 56), and/or Collect/Generate/Validate substantial amounts of data (WE# 157) when it is important also to report the data collection methods. Technical progress reports often use a scientific format, especially when it is important to describe the methods that produced the results. An alternative, less common format could follow the flow of activities described in the contract's statement of work (SOW-based format). After being uploaded to Pisces, Technical reports will be published as Department of Energy Technical Reports, per standard practice.</p> <p>"Non-technical" progress reports also will be uploaded to Pisces, which will provide public access, but will not be "published" as a DoE Technical Report. Non-technical reports may use a range of formats, typically based on the SOW activities, but potentially free-form. They may be mostly photos, simple summaries of data, or a brief description of lessons learned. The most important considerations are that they document completion of the contract's work and capture important information that would not be readily available through other means (e.g., Pisces metrics and status reports).</p>	No metrics needed for this work element			



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141	Produce Status Report	Reporting	This work element covers any report required or produced for a contract, except those specifically covered under other work elements (e.g., WE# 132: Produce (Annual) Progress Report, or WE# 183: Produce Journal Article, or WE# 185: Produce Pisces Status Report). If this work element is used for multiple reports in the same contract, then each report should be listed as a separate milestone.	<i>No metrics needed for this work element</i>			
154	Develop and Negotiate Water Right Transaction	Water Transactions	Covers initial aspects of completing water right transactions from preliminary evaluation of the viability of a specific transaction opportunity to preparing water transaction. May include: negotiating, proposing, and review of water deals through the Columbia Basin Water Transactions Program process. Does not include general landowner coordination before any transaction opportunity is identified. Includes development of transactions to put more water instream such as split season leases, long-term leases, diversion reduction agreements, permanent water transfers, stored water agreements to increase stream flows, and water exchanges.	<i>No metrics needed for this work element</i>			
156	Develop RM&E Methods and Designs	RM & E and Data Management	Work that develops and tests conceptual, quantitative, and technological tools for application in research, monitoring, and/or evaluation projects. Includes statistical and sampling designs, data definitions, conceptual models, simulation models, tagging and other equipment, software development, and generally any other work that prepares for the implementation of actual data collection/generation. Does not apply to producing an RM&E plan itself (see WE# 174: Produce Plan). Does not apply to models that are developed in the course of analyzing and interpreting existing data, such as multivariate models.	<i>No metrics needed for this work element</i>			



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159	Submit/Acquire Data	RM & E and Data Management	This work is for transferring data from one spreadsheet/database to another, typically primary data from a field or lab site to a higher-level, secondary regional or national database. It includes both the act of sending and receiving, hardware/software needs for automated uploads/downloads (e.g., transmission and relay links for regular nightly uploads from remote telemonitoring sites), the development and application of data exchange protocols (including QA/QC), and any formatting and documentation required on the sending end to make the transfer. It does not include initial data entry or manipulating (e.g., reformatting) data at the receiving end. This work element explicitly reinforces the importance of transferring data to databases where they will be maintained and accessible, but does not anticipate that this activity will usually require significant effort or costs.	No metrics needed for this work element			
160	Create/Manage/Maintain Database	RM & E and Data Management	Any work that maintains or improves the security, quality, accessibility, or utility of data in a structured database. Includes creation of relational databases; creation of computer applications to manage data, creation of standardized data formats, management of the data within the database, database hardware/software maintenance and improvement, QA/QC, building and maintaining connectivity with interrelated applications (e.g., GIS, web portals), and creation of metadata/documentation and user-support materials, etc. This applies both to larger regional, secondary databases and to local primary databases (can include spreadsheets) maintained on desktops for individual projects. Does not include generation of data queries or reports, except for internal data management.	No metrics needed for this work element			



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161	Disseminate Raw/Summary Data and Results	RM & E and Data Management	All work that makes data and information available to professional users, except for written products covered specifically by other work elements. Includes maps, data query systems, internet data distribution, development of online data display tools, library and archival services, and oral and abstract presentations of results to professional audiences. For outreach and education to students, the general public, and other non-professional audiences, see WE# 99: Outreach and Education.	No metrics needed for this work element			
168	Council 3-step Process: Step 1	Hatchery / Major Construction	<p>Activities necessary to coordinate Step 1 of the NPCC's 3-step process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. Step 1 is the conceptual/preliminary phase of the process. The key products needed for a Council decision are: 1) a program master plan and 2) an initial facility layout and cost estimate. Some level of feasibility/concept design is normally needed to develop a layout and cost estimate.</p> <p>Projects that fall under the Council's 3-Step Review Process include artificial production programs/facilities, other major or complex construction programs, programs that address an entire watershed, or actions that substantially deviate from a subbasin plan.</p> <p>This work element is a planning/coordination function broken out under a discrete work category because it is a unique feature of the F&W Program.</p>	No metrics needed for this work element			



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169	Council 3-step Process: Step 2	Hatchery / Major Construction	<p>Activities necessary to coordinate Step 2 of the NPCC's 3-step process, the 'progress review' phase of the process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. For step 2, the key documents needed for a Council decision are: 1) NEPA and ESA review and 2) preliminary design leading to a more refined facility plan and cost estimate.</p> <p>This work element is a planning/coordination function that is broken out under a discrete work category because it is a unique feature of the F&W Program and needs to be tracked separately. This work element captures the labor and materials associated with coordinating the Step 2 process. It does not include any work associated with creating or revising any of the required documents. See Related Work Elements section, on the work element background page.</p>	No metrics needed for this work element			



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170	Council 3-step Process: Step 3	Hatchery / Major Construction	<p>Activities necessary to coordinate Step 3 of the NPCC's 3-step process, the 'final design' phase of the process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. For step 3, the key documents needed for a Council decision are: 1) 100% design plans and specifications and 2) a 100% cost estimate, with a 10-15% contingency.</p> <p>This work element is a planning/coordination function that is broken out under a discrete work category because it is a unique feature of the F&W Program and needs to be tracked separately. This work element captures the labor and materials associated with coordinating the Step 3 process. It does not include any work associated with creating or revising any of the required documents. See Related Work Elements section, on the work element background page.</p>	No metrics needed for this work element			
171	Build Artificial Production Facility	Hatchery / Major Construction	Covers all work associated with the construction of a hatchery complex or any structural component of an artificial production facility or satellite facility (e.g., incubation rooms, rearing tanks/ponds, raceways, acclimation ponds, holding ponds, pumps, wells or other water supply, hatchery offices, staff housing, etc.). Also covers the expansion or replacement of any major component.	No metrics needed for this work element			
172	Conduct Pre-Acquisition Activities	Land Acquisition / Conservation Easement	This work element includes the majority of the steps that are required before fee title or a conservation easement can be acquired for a tract of land. The steps are: perform appraisal, perform title searches, perform land boundary surveys, provide legal descriptions, perform hazardous waste assessment, and identify minimum habitat units. For easements, this work element would also include the definition of the easement terms and conditions.	No metrics needed for this work element			



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174	Produce Plan	Planning and Coordination	Covers a wide range of planning activities including but not limited to operation plans, management plans, maintenance plans, implementation plans, restoration plans, research, monitoring, and evaluation (RM and E) plans, Hatchery Genetic Management Plans (HGMPs), feasibility studies, and surveys. Covers both strategic plans that will influence multiple projects and site-specific plans. Use WE# 168: Council 3-step Process: Step 1, or WE# 169: Council 3-step Process: Step 2, to cover labor and materials for the submission of documents required by the NPCC's 3-step process.	No metrics needed for this work element			
175	Produce Design and/or Specifications	Planning and Coordination	Covers all work associated with the preparation of engineering or technical drawings, specifications and/or budgets required for the construction/installation of any structure or facility. May include ancillary work such as land surveying, photogrammetric surveys, field surveys, etc. For construction work not requiring a formal design (e.g., installation of a barbed-wire fence), this work may be included as a milestone under the corresponding work element.	No metrics needed for this work element			
182	PIT Tags	BPA Internal Operations	This is a BPA Internal-use only Work Element. BPA uses this work element to capture the cost of PIT tags purchased by BPA on behalf of the contractor(s). While this work element is not included in the contractor's statement of work, it is a project expense. Use WE# 158: Mark/Tag Animals, for contractor expenses associated with ordering and/or implanting the tags in fish or wildlife.	No metrics needed for this work element			



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185	Produce Pisces Status Report	Reporting	<p>This work element covers the reporting of status of milestones and deliverables in each contract. These milestone status reports shall be completed either monthly or quarterly as negotiated between the contractor and COTR.</p> <p>For any other type of status report required or produced for a contract, use WE# 141: Produce Status Report -- except those specifically covered under other work elements (e.g., WE# 132: Produce (Annual) Progress Report, or WE# 183: Produce Journal Article).</p>	<i>No metrics needed for this work element</i>			
186	Operate and Maintain Habitat/Passage/Structure	Habitat/Passage O&M	Operation and maintenance of habitat features including, but not limited to, fences, instream structures, passage facilities, sediment control structures, and off-site water developments. Also includes the maintenance of residences, sheds, barns, and other buildings associated with habitat/passage projects. Use WE# 188: Provide Access and Public Information for maintenance of access roads, parking areas, signs, and kiosks. Use WE# 61: Maintain hatchery, for operation and maintenance of facilities and structures associated with hatcheries. Use WE# 22: Maintain Vegetation for vegetation maintenance.	<i>No metrics needed for this work element</i>			
187	Put and Take Fisheries	Hatchery O&M	The stocking of a pond, lake or reservoir with hatchery reared fish for recreational fishing purposes. This includes the transport and stocking of the fish, and the operation and maintenance of the recreational facilities, e.g. bathrooms and access roads.	<i>No metrics needed for this work element</i>			
188	Provide Access and Public Information	Habitat/Passage O&M	Installation and/or maintenance of signs, kiosks, information boards, access roads, road closures, and parking areas. You should use this WE for trespass signing rather than WE# 26: Investigate Trespass. Also, WE# 61: Maintain Hatchery, should be used for this kind of work pertaining to hatchery operations and WE# 38: Improve Road, should be used for road work associated with habitat improvement by reducing erosion.	<i>No metrics needed for this work element</i>			



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189	Regional Coordination	Planning and Coordination	Refers to coordination work that covers a large portion of the Columbia River Basin. Coordination which directly supports other project work should be covered in the details of the associated work element. Coordination work which helps identify or select projects and/or sites should be covered under WE# 114: Identify and Select Projects.	No metrics needed for this work element			
190	Remove and/or Exclude Animals	Habitat Improvement	Removal or relocation of non-native or undesirable fish and wildlife species and/or any actions employed to exclude non-native or undesirable fish and wildlife species from a particular area. Examples of removal include the removal of bullfrog egg masses and adults or removal of Northern pikeminnows. Examples of exclusion activities include the installation of a fish passage barrier to exclude non-native fish from high mountain lakes. Fencing activities designed to exclude livestock should use WE# 40 Install Fence.	No metrics needed for this work element			



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Click [Here](#) for a worksheet-compatible (csv) formatted report.

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